

City of Chula Vista

Asset Management Program Advisory Committee

June 11th, 2014



“above, below, and all around you”



***"INFRASTRUCTURE IS
THE FOUNDATION FOR
A SUSTAINABLE
QUALITY OF LIFE."***

CITY OF CHULA VISTA

Asset Management Program

Advisory Committee

“The Road Trip”

4:30PM Meet and Greet (pizza/beverage)

4:40PM Staff Presentation: The Roadway Management System (RMS) and the Drainage Management System (DMS)

5:00PM Bus Tour (bus tour to highlight RMS and DMS issues in the field, demonstrations of pavement conditions/repair and drainage condition assessments)

6:30PM Close and depart from PWC

CHULA VISTA'S PUBLIC ASSETS

- Approximately 460 center line miles of paved public streets
- Over 1,000 miles of sidewalks and trails and paths
- Over 500 miles of sewer pipes
- 268 traffic signals
- Over 9,000 street lights
- Over 27,000 street trees
- Over 500 acres of park land
- Over 2,000 acres of open space
- Over 4.2 Million LF of curb and gutters
- 249 miles of storm drains
- Over 550 kW of Solar Photovoltaic systems
- Athletic Fields, Bridges, Civic Center, Drainage Channels, Equipment Inventory, Fire Stations, Fences, Golf Course, Guardrails, Jails, Libraries, Museum, Nature Center, Pipelines, Police Headquarters, Pools, Public Works Center, Recreation Centers, Retaining Walls, Rohr Manor, Visitor Information Center, South Bay Regional Household Hazardous Drop-off Facility, Street Signs, Vehicle Fleet...

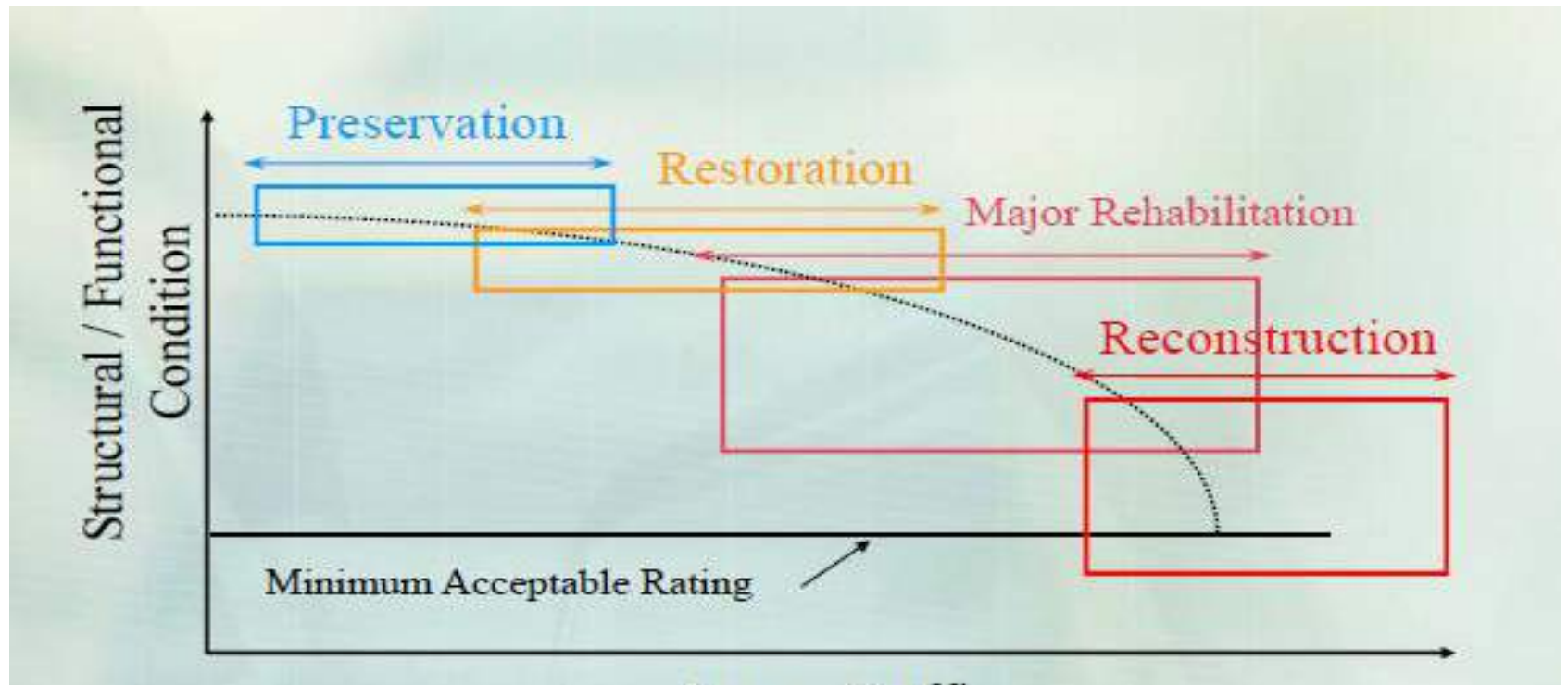


Asset Management

Managing assets to minimize the life cycle cost of ownership while delivering the service level at an acceptable level of risk

Optimized Stewardship

ASSET MANAGEMENT PERFORMANCE CURVE



ASSET MANAGEMENT PROGRAM (AMP)

2012	→	2013	
GREEN		GREEN	Wastewater Management System WMS
YELLOW		YELLOW	Parks Management System PMS
YELLOW		YELLOW	General Government Management System GGMS
YELLOW		RED	Building Management System BMS
YELLOW		RED	Fleet Management System FMS
RED		RED	Drainage Management System DMS
RED		RED	Roadway Management System RMS
YELLOW OSMS	→	GREEN	Open Space Management System OSMS
New		RED	Urban Forestry Management System UFMS

...9 Asset Management Systems for 100 years of investments

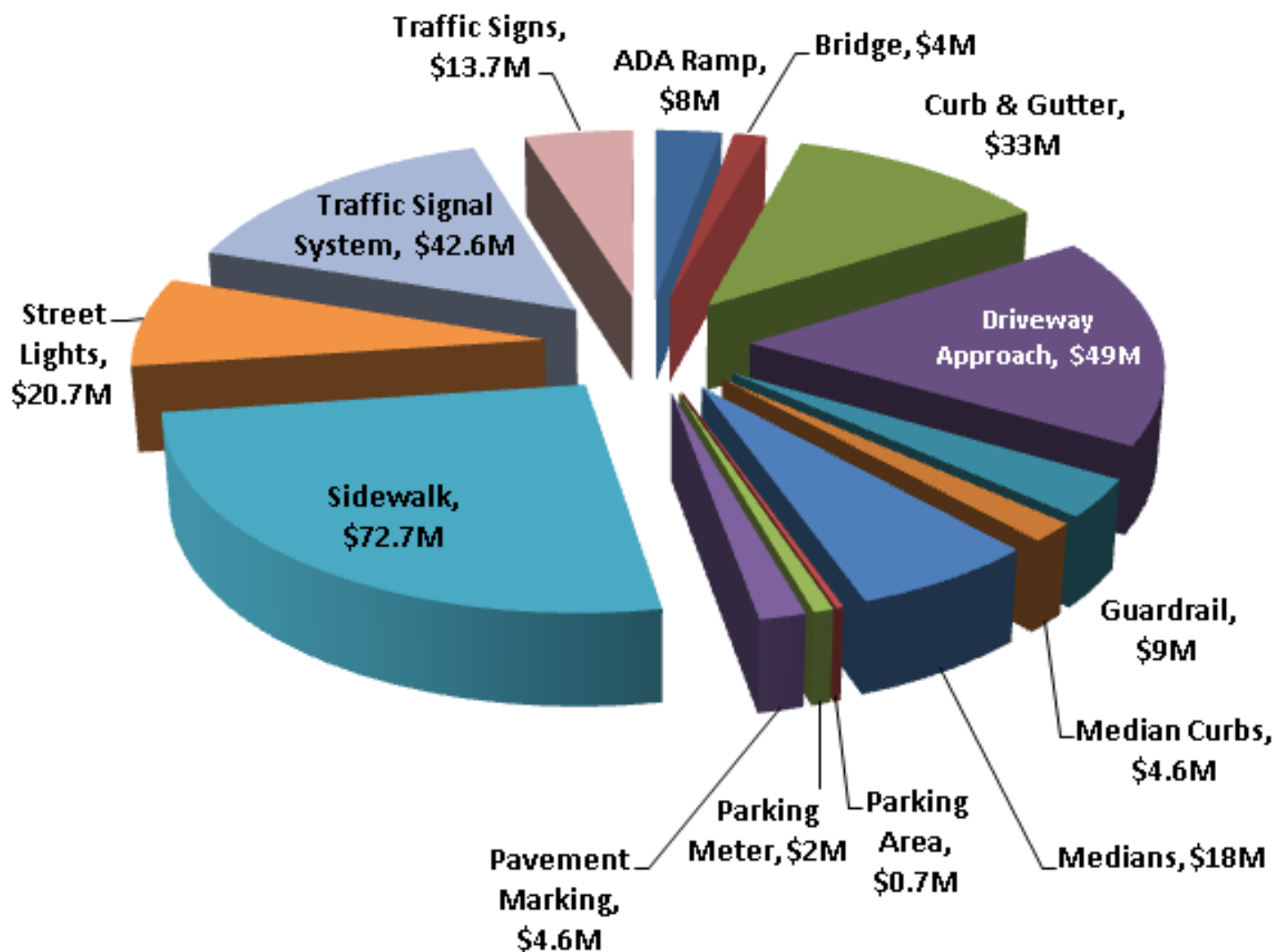
ROADWAY MANAGEMENT SYSTEM (RMS)

All City-owned assets in the Public Right-of-Way

- Sidewalks and Paths (Peds and Bicycles) (750 miles)
- Medians and Median Curbs (93 miles)
- Curb/Gutter and Cross Gutters (773 miles)
- ADA Ramps (5,497)
- Traffic Signals (260)
- Street Lighting (7,926)
- Guardrails (6.7 miles)
- Traffic Signs (27,324), Traffic Striping and Pavement Markings (587 miles)
- Bridges (21)
- Parking Lots (11), and Parking Meters (335)

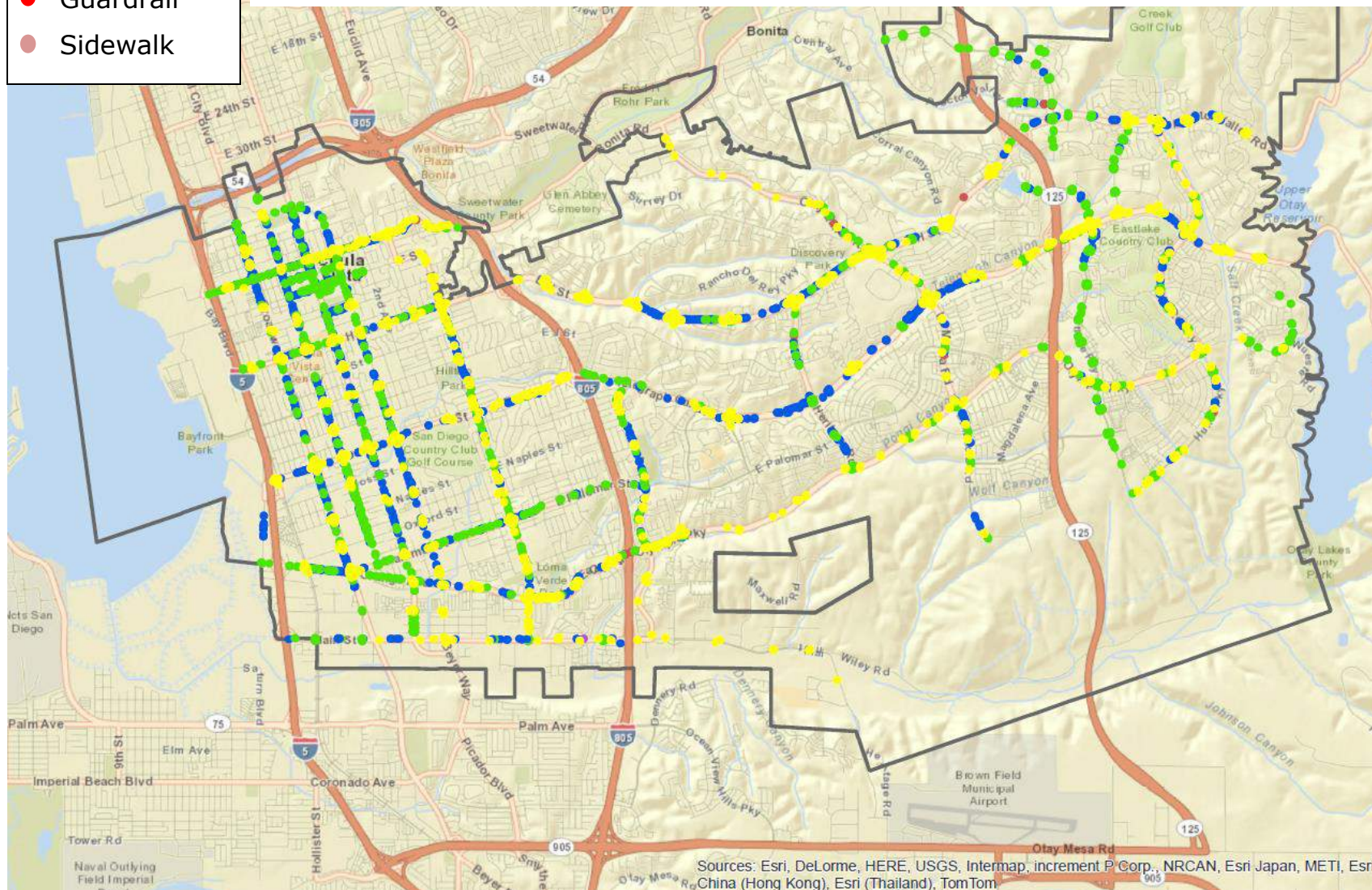


RMS assets are worth approx. \$283M



- Signage
- ADA Ramp
- Curb
- Guardrail
- Sidewalk

CONDITION ASSESSMENT WORK PROGRESS



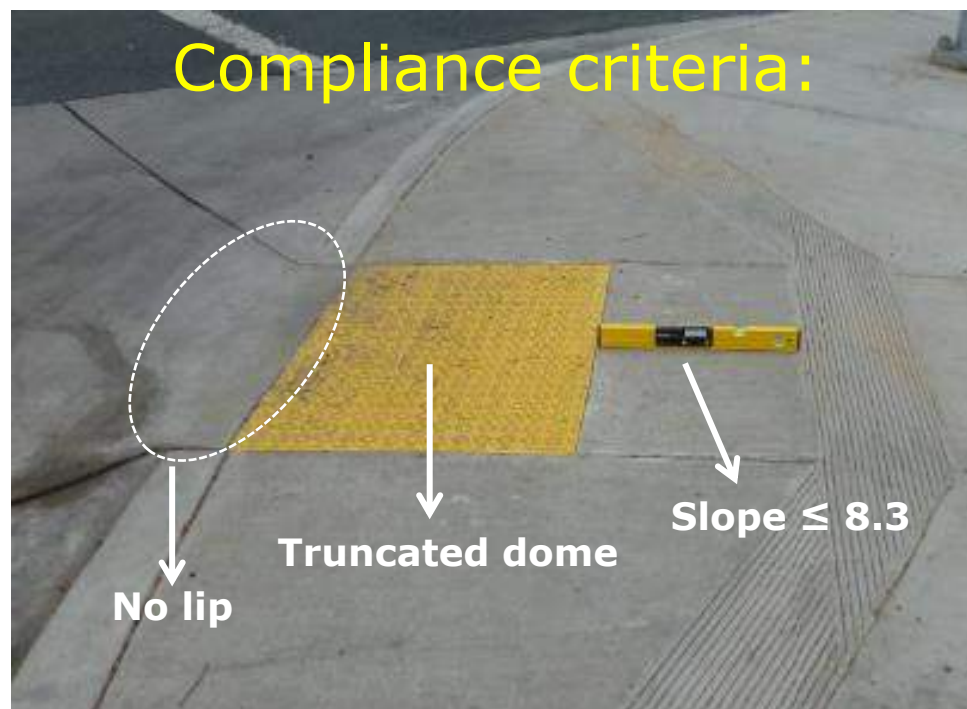
TRAFFIC SIGN INSPECTION RESULTS

- Average age of sign inspected is 8 years
- Of all sign inspected, 71% passed retroreflectivity requirements

Sign Type	Expected Life
Black on Orange	10 years
Black on White	15 years
Black on Yellow	10 years
White on Green	5 years
Red on White	10 years
White on Red	20 years

ADA RAMPS

- 1,227 ADA ramps inspected
- 528 new ramps are added to existing inventory
- Results:
 - 31% are fully compliant
 - 19% are partially compliant (missing 1 criteria)
 - 47% are only meet slope criteria
 - 3% are non-compliance



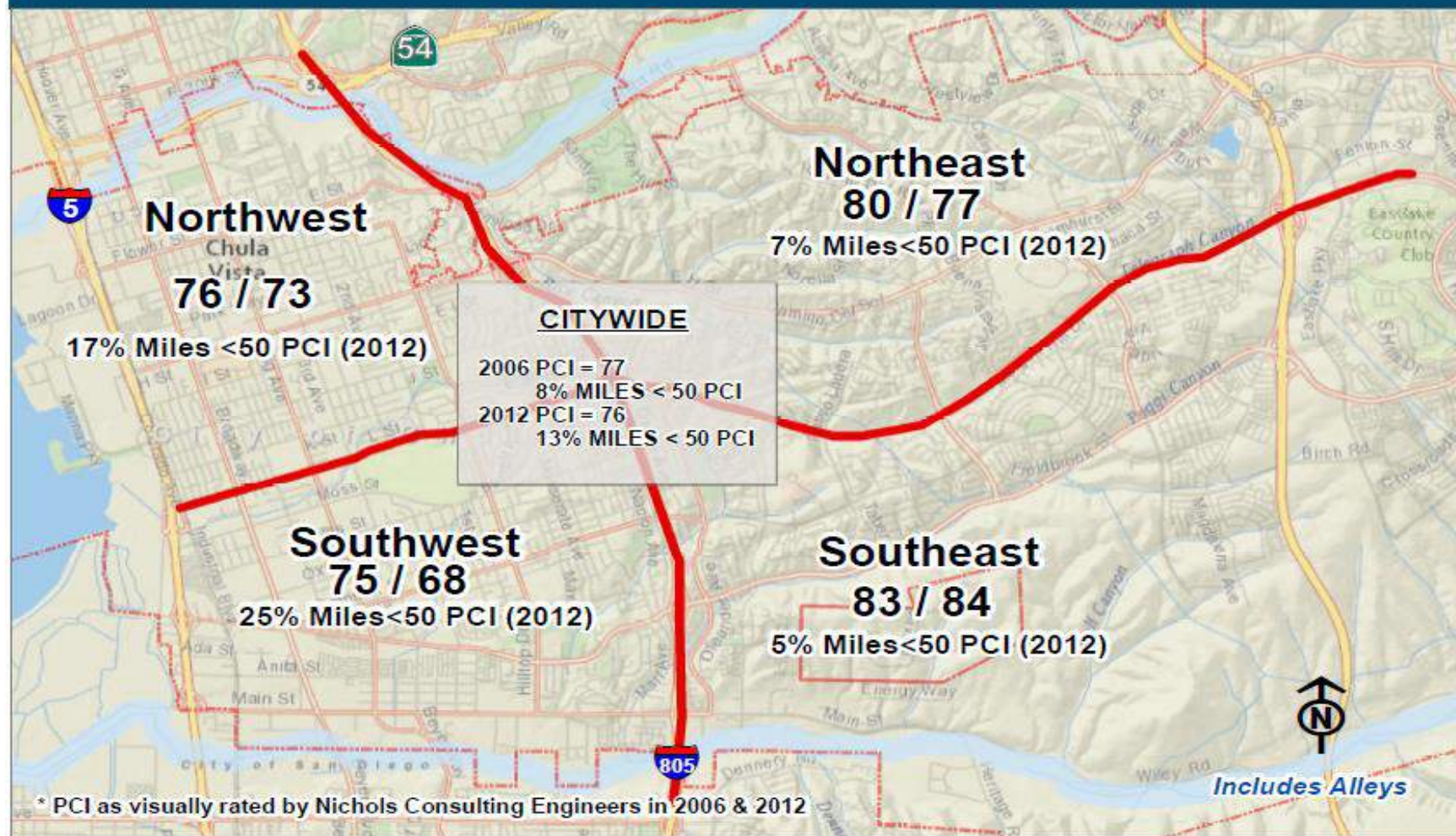
SIDEWALKS

- 70 miles of sidewalks inspected
- Within the inspected sidewalks, there are 1,070 locations of trip hazards (uplift ≥ 0.25 in)
 - 63% are ≥ 0.5 in
 - 29% are ≥ 1 in
 - 7% are ≥ 2 in
- Most uplifts are due to close proximity to trees
 - Install root barrier when planting new trees



PAVEMENT CONDITION INDEX

PCI MAP 2006 PCI / 2012 PCI* - AVERAGE BY AREA



PAVEMENT ASSETS

Category	Centerline Miles	Lane Miles	Area – Million Sq. Ft.	Current PCI*	Target PCI*
Arterials	58.3	287.4	22.0	80	80
Collectors	77.7	223.2	19.8	73	75
Residential	316.4	642.5	56.4	70	70
Alleys	10.6	22.0	1.3	51	
TOTAL NETWORK	463.0	1175.1	99.5	73	

*PCI – Pavement Condition Index June 2014

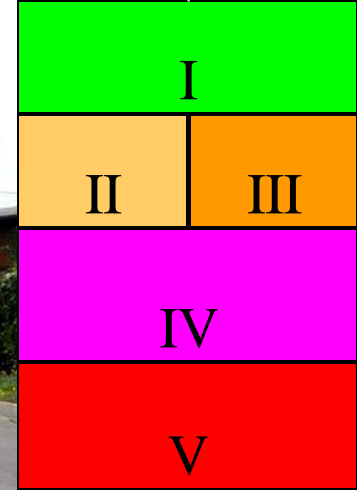


I	
II	III
IV	
V	

PCI = 75

Action = Crack or surface seal

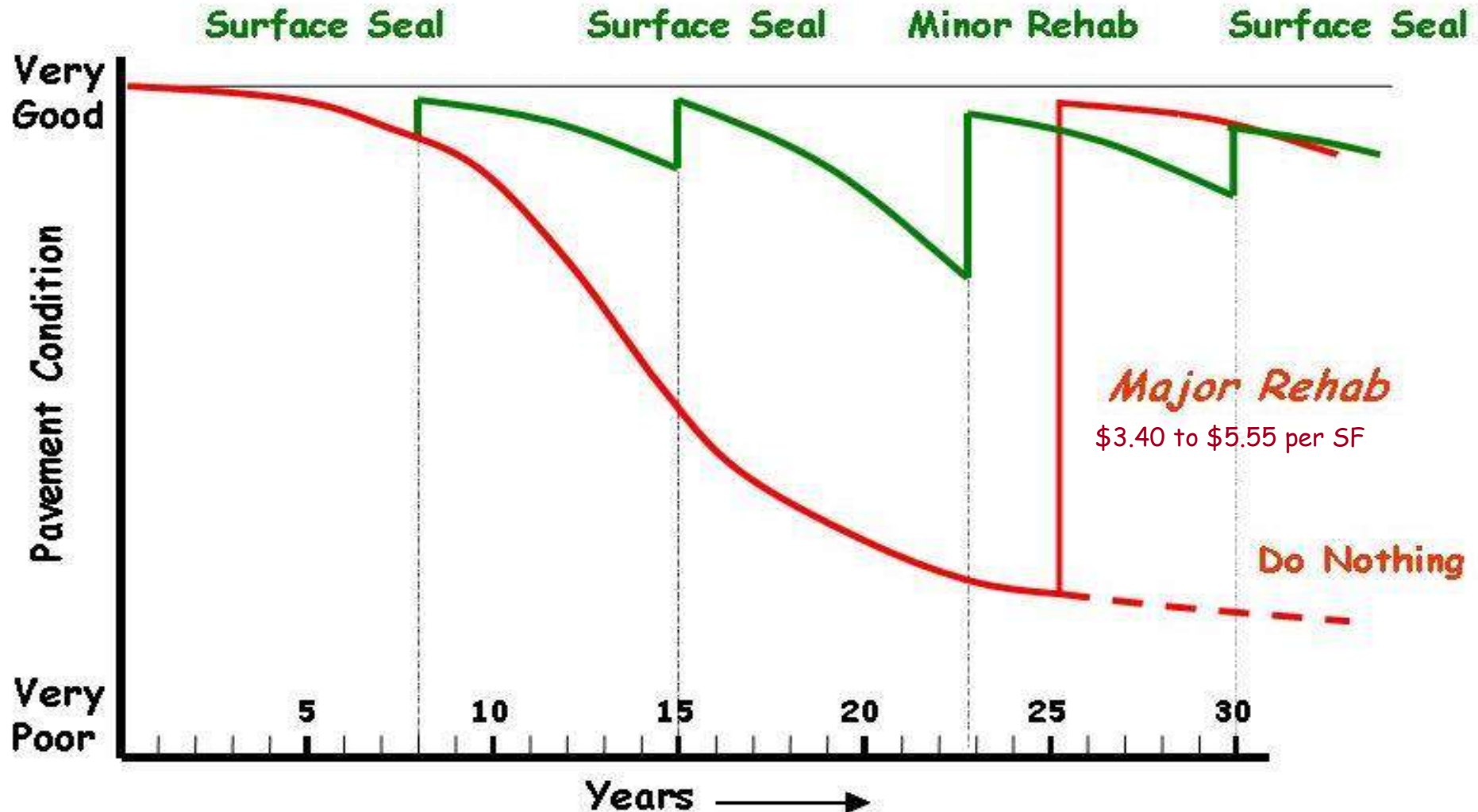




PCI = 40

Action = Thick overlay

Pavement Preservation Strategies





“Digout” repairs

Spot repairs: Crack filling and “digouts” to repair potholes. Generally done by City crews



Crack Filling



Slurry Seal: A thin layer of asphalt emulsion, aggregate, water and additives

Chip Seal: A thin layer of asphalt emulsion covered by a thin aggregate cover



Cape Seal: Slurry seal applied over a Chip Seal



Overlay: A minimum 1½" thick asphaltic concrete layer applied on streets that show signs of structural failure



Reconstruction: Removal and replacement of both the asphalt concrete pavement and the aggregate base

Full Depth Reclamation:

Recycling and re-using the existing pavement, base and soil, which are pulverized and blended, and cement is added. 3" or 4" of asphalt concrete pavement is placed over the FDR base



Roadway Management System

Current Funding Mechanisms

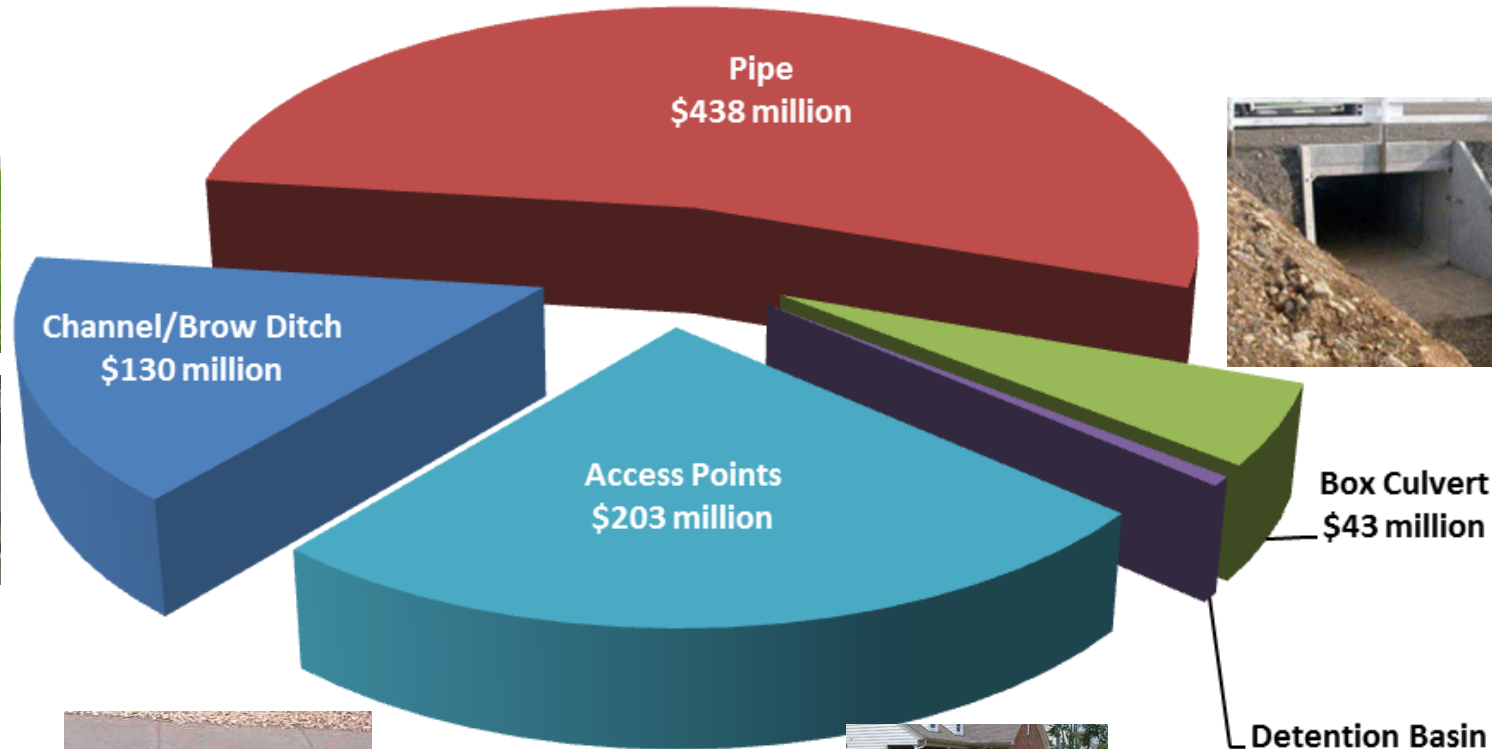
- *TransNet Bond Measure*
- *Gas Excise Tax Increase*
- *Grants*
- *Assessment District (Alleys, Sect 108)*
- *ARRA Funds-Economic Stimulus*

DRAINAGE MANAGEMENT SYSTEM (DMS)

- **Approximately 1.5 million feet of pipe**
(CMP, HDPE, PVC, RCB, RCP, VC) size ranging from 4" to 180"
- **Approximately 1.6 million feet of channel**
(Brow Ditch, Concrete Lined Rectangular and Trapezoidal, Natural)
- **Approximately 13,000 Public Access Points**
(Clean Outs, Head Walls, Inlets, Junction Structures, NPDES Structures, Outlets)
- **Approximately 150 Other Structures**
(Desilting Basins, Detention Basins, Gabion Structures, Water Quality Basins)

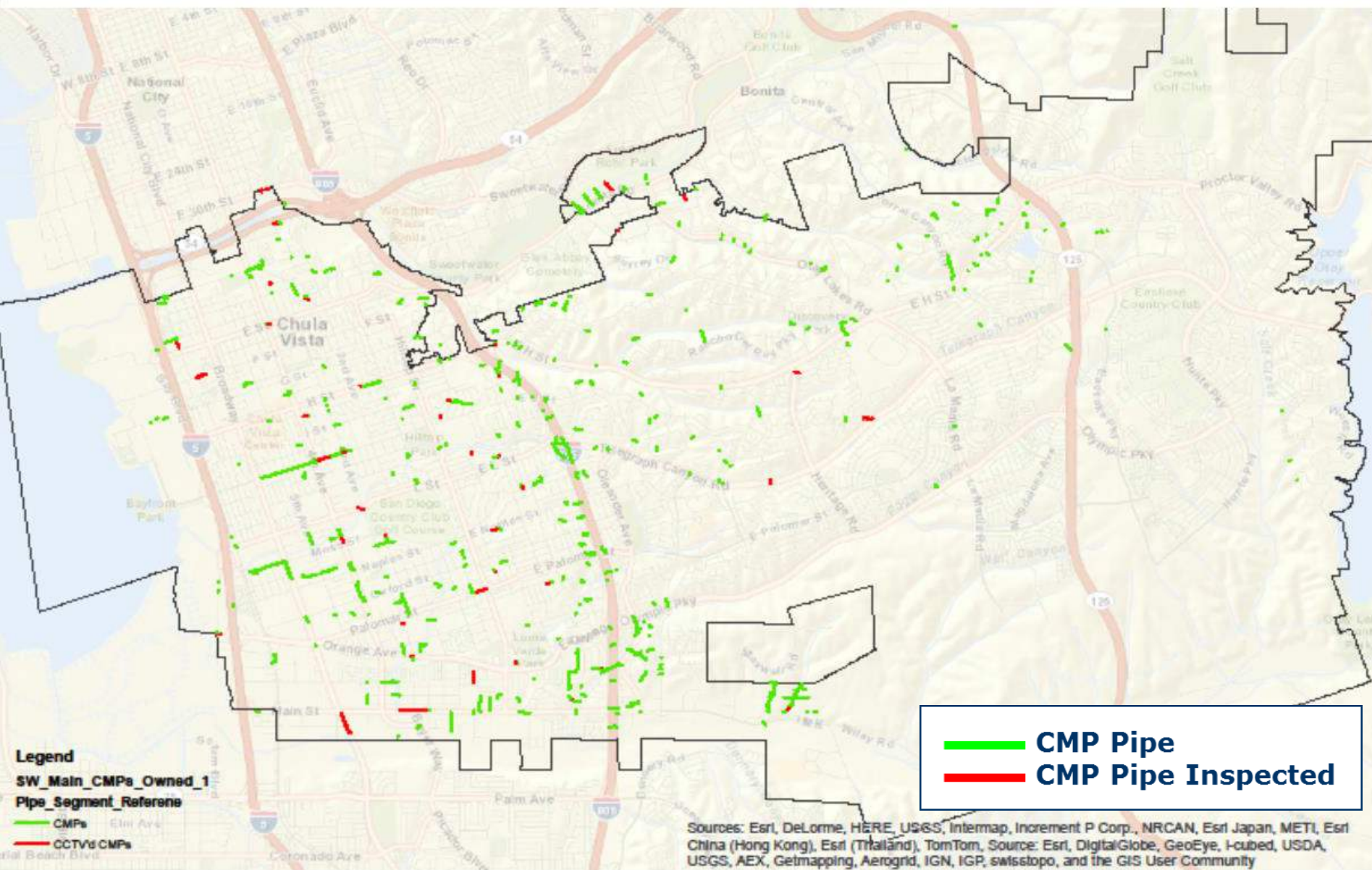


DMS assets are worth approx. \$819M





Corrugated Metal Pipes (CMP) Inspected



DMS CHALLENGES

Low Confidence Level of Existing Data

- Unknown material or different than actual
- Unknown size or different than actual
- Inconsistent asset definition
 - Where a pipe lies within a channel, two asset are not distinguished (one asset ID)
- Minimal condition assessment data
- Small Revenue from Drainage Fee (Sewer Bill)

The Road Trip

